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ABSTRACT

A system, device, and method for controlling access in a multicast communication network uses a centralized host authentication scheme to prevent unauthorized hosts from joining a shared multicast distribution tree. Each authorized host is allocated a unique authentication key, which is used by the designated router to encode the PIM join message and by the rendezvous point router to authenticate the PIM join message. If the PIM join message is authentic, then each PIM router from the rendezvous point router to the designated router establishes appropriate multicast routes to route multicast packets to the host. If the PIM join message is not authentic, then multicast packets are prevented from reaching the host.